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(54) Title: AVIONIC SYSTEM AND GROUND STATION FOR AIRCRAFT OUT OF ROUTE MANAGEMENT AND ALARM COMMUNICATIONS

(57) Abstract: An avionic system and ground station for aircraft out of route management and alarm communications composed of an avionic device, which is fitted onboard the aircraft, with a memory unit for storing the flight paths data, runways, orography, and obstacles; processors to compute the stored or received data, available from sensors monitoring the onboard situation. Processors will compute commands to be sent to the aircraft's autopilot to temporarily take over the aircraft control and return it to pre-set flight levels or spatial positions; communication devices suitable for-transmitting the real time onboard situation to ground control stations when potentially dangerous events occur.

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C. DOCUME	ENTS CONSIDERED TO BE RELEVANT									
Category °	Citation of document, with indication, where appropriate, of the rel	evant passages	Relevant to claim No.							
										
Х	US 5 714 948 A (FARMAKIS TOM S E 3 February 1998 (1998-02-03)	T AL)	1,8-10							
Υ	column 5, line 36 -column 6, line	3;	3-5							
	figure 1									
Α	column 7, line 60 -column 11, lir figure 1	ne 2;	2,11							
	column 11, line 3 - line 52; figu	ire 2								
	column 20, line 30 -column 22, li	ne 10;								
	figure 3	•								
X ·	US 6 392 692 B1 (MONROE DAVID A)	,	1,3,4,6,							
	21 May 2002 (2002-05-21) abstract		8-10 11							
Α	column 11, line 21 - line 25		11							
	column 13, line 26 -column 14, li	ne 4;								
	figures 2,3									
	-	-/								
X Furth	er documents are listed in the continuation of box C.	X Patent family members are listed	in annex.							
Special car	legories of cited documents :	*T* later document published after the inte								
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citatlor	or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or	cannot be considered to involve an inv document is combined with one or mo	ventive step when the ire other such docu-							
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C/Continue	won) DOCUMENTS CONSIDERED TO BE RELEVANT	FCITET US	7 47 430
Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
x	US 5 627 546 A (CROW ROBERT P)		1 0-10
A	6 May 1997 (1997-05-06)	•	1,8-10
`	column 4, line 11 - line 22; figure 1 column 9, line 30 - line 63; figure 7		11
Y	WO 00 44580 A (COMPUMEDICS SLEEP PTY LTD; BURTON DAVID (AU)) 3 August 2000 (2000-08-03) page 1, line 3 - line 13 page 3, line 16 - line 21 page 11, line 1 - line 20 page 19, line 22 - line 28 page 27, line 14 - line 21; figure 7		3-5
),X	WO 03 023322 A (TURUNG BRIAN E)		1,2,8-11
\	20 March 2003 (2003-03-20) the whole document		6
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			,
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Intel Jonel Apposition No PCT/EP 03/07486

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5714948	A	03-02-1998	US	5351194 A	27-09-1994
			AU	-33591-95 A	16-02-1996
			EP	0774148 A1	21-05-1997
			MO	9602905 A1	01-02-1996
			US	6314366 B1	06-11-2001
			US	2002133294 A1	19-09-2002
			ΑU	5585794 A	12-12-1994
			GB	2292496 A ,B	21-02-1996
			WO	9427162 A1	24-11-1994
			US	5673305 A	30-09-1997
US 6392692	B1	21-05-2002	NONE		*** *** *** *** *** *** *** *** *** **
US 5627546	Α	06-05-1997	NONE		
WO 0044580	Α	03-08-2000	AU	2271000 A	18-08-2000
		20 00 2000	WO	0044580 A1	03-08-2000
			ÜS	6575902 B1	10-06-2003
WO 03023322	Α	20-03-2003	WO	03023322 A2	20-03-2003